



Vol. 53

February 2003

No. 2

Battle of the Beams

[Editor's note: Al VO1NO spoke about the Battle of the Beams at the November club meeting. Unfortunately, he ran out of time, and so has agreed to finish at the March meeting. For the benefit of those who missed the talk in November, here is a condensed version of Part One of the Battle of the Beams. Also, the continuation of "Battle of the Beams" was scheduled for this month's meeting, but it's been postponed due to Al's travel schedule this month.]

Knickebein

In early 1940, while the "Phony War" was being fought in mainland Europe, single German Luftwaffe bombers began probing the almost non-existent night defenses over the blacked-out towns and cities of Britain. In March, however, a British fighter, guided by ground radar, intercepted a Heinkel 111 of Bomber Group 26 and shot it down. Later that day its wreckage was inspected by Royal Air Force (RAF) intelligence officers who discovered a note used by the navigator. It mentioned a radio beacon "Knickenbein" on a bearing of 315 degrees. This was the first time the intelligence officers had heard of Knickebein, German for "crooked leg". Several days later a diary recovered from another Heinkel again mentioned Knickebein. RAF Intelligence decided to see if it would elicit any reaction from German Prisoners of War (POWs). During one interrogation a prisoner admitted that it was like X-Gerat, that it used a shortwave beam, and that the beam was less than a kilometer wide over London.

X-Gerat, German for "Secret Apparatus", was known by RAF Intelligence to be a system of intersecting radio beams to guide bombers. This was the first time it had been associated with Knickebein however. Dr. R. V. Jones, a young scientist recently appointed to Air Scientific Intelligence, was given responsibility for investigating this. (cont'd)

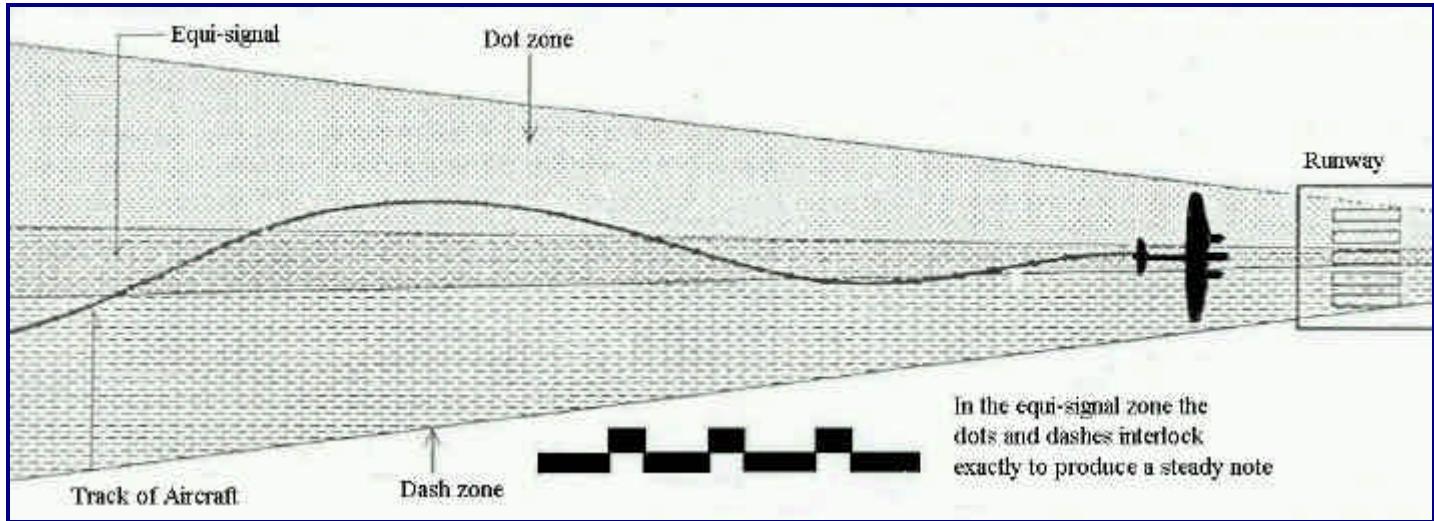


Fig 1: The Lorenz Beam Landing System.

By flying in the equi-signal zone, an aircraft was able to accurately locate an airfield in poor weather or darkness.

February Program: Old Time Radios

Meetings Our monthly meetings are normally held on the 2nd Wednesday of each month at 7 pm at the Leon Young Service Center, 1521 Hancock Parkway, just north of the US 24 (Martin Luther King) Bypass. Our Annual meeting is in October. Check the web site for any changes.

Regular License Exam Sessions

Our ARRL VEC test sessions are on the 2nd Saturday of even numbered months at 0900 at the DeVry Institute annex, 3245 International Cr, just east of Memorial Park, but west of Printers Parkway. Contact Erik KGØXE for details.

Examinees need to bring (1) \$12, preferably a check or money order payable to ARRL/VE; (2) picture ID; (3) the signed original and a copy of your current amateur radio license and CSCEs you have (we keep the copies); and (4) a pen, pencil, and calculator if needed. Memory calculators will be checked.

PPRAA Web Page See it at <http://www.qsl.net/ppraa/>. Thanks to Lee Inman KØQED for maintaining these pages.

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Thanks to John Wishart KCØJFH for maintaining this list.

PPRAA Simplex Net All amateurs are invited to join us on Thursday evenings at 1900 on 146.58 MHz simplex for our club net. Get the latest club and regional happenings!

Officers and Directors

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Board Member	Jerry VerDuft	ADØA	verduftj@earthlink.net
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* Indicates this Director is in the 2nd year of a two-year term

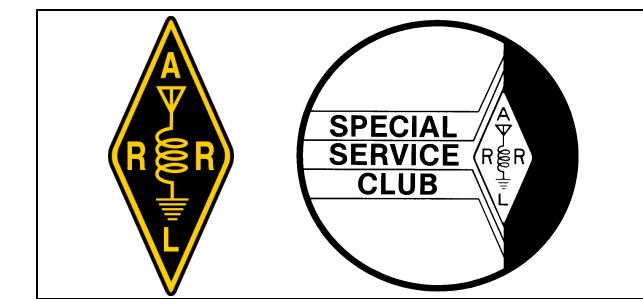
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Upcoming Club Programs

Feb Old Time Radios

Mar Digital Modes



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Battle of the Beams (Continued)

By VO1NO Al Penney

Born in 1911, R. V. Jones received his PhD in physics at age 22 and studied infrared detection at Clarendon Laboratory under Professor Lindemann, later Winston Churchill's wartime Scientific Advisor. In 1939 he was appointed Scientific Officer to MI6.

After studying all available evidence, Jones concluded in his report of 23 May that Knickebein was also a navigation system using intersecting radio beams, and

Rowley Scott-Farnie, G5FI, and a Signals officer with RAF Intelligence, had told Jones of a paper by T. L. Eckersly. A radio propagation expert with the Marconi Company, Eckersly's research had indicated that a VHF signal from Germany could indeed be received over England. Jones decided to show Lindemann this evidence the next day.

In the meantime Jones learned that a captured pilot had bragged that the British would never find the Knickebein receiver. Jones took this as an irresistible challenge. Convinced that it must be in the aircraft, he reviewed all information on the electronic fit of German night

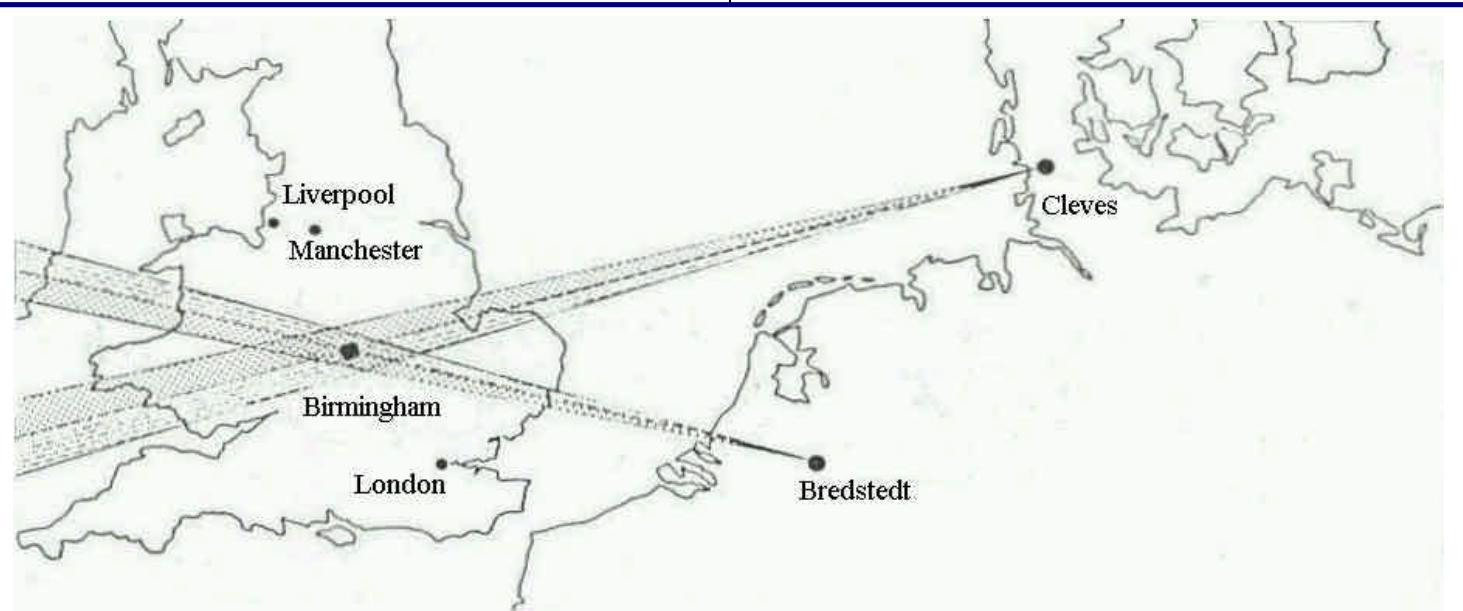


Fig 2: Knickebein beams aligned on Birmingham. The Luftwaffe bombers would fly along the beam from Bredstedt, tuning in to the beam from Cleves when close to the target. When the Cleves signal merged into the equi-signal, the bombs were released.

that it had an accuracy of half a mile. On 5 June a decoded German message described the Cleves Knickebein as being confirmed, and gave a location in England. Jones correctly interpreted this as a report from a reconnaissance aircraft confirming the direction of the beam from Cleves in western Germany. Just to be sure however, a search party was dispatched to the named location to look for a hidden transmitter. Much to the disappointment of the local police, no spy was found!

Due to the weak state of British night defenses and the resulting vulnerability of British industry to night bombers, Jones felt that any advance in nighttime navigation was important enough to report to Prime Minister Churchill. In a meeting with Professor Lindemann, Jones detailed all he knew about Knickebein. Lindemann was not convinced however. He believed that at the frequencies required for an accurate beam from Germany to England, a signal could not be received due to the curvature of the Earth.

bombers. He learned that while all equipment was up to the usual German high standard, the Lorenz set seemed to be unusually sensitive.

The Lorenz System

The Lorenz system had been used since the mid 1930s to enable both military and civilian aircraft in several countries to land at night and in poor visibility. It consisted of two interlocking radio beams, which overlapped over the intended runway. It operated between 28 and 35 MHz. One signal consisted of Morse dots, the other dashes, timed such that when receiving both signals at the same time, a continuous tone was received. When out of this area, known as the equi-signal, the pilot knew which direction to steer to regain course depending on whether he heard dots or dashes (see Fig 1). The system was very accurate, though it required a high degree of skill in instrument flying.

Normally, the maximum range of the Lorenz system was only 30 miles. In view of the increased sensitivity of the

receivers found in the German aircraft however, Jones was sure that Knickebein and this modified Lorenz system were one and the same. Armed with this information, and Eckersly's paper on propagation, Jones convinced Lindemann the next day. With German bombers now able to strike accurately at night, Lindemann reported this to Churchill immediately. The Prime Minister ordered that efforts be made to determine the operating frequencies and methods to jam it. Accordingly, three Anson bombers were hurriedly fitted with Hallicrafters S-27 receivers. Rowley Scott-Farnie instructed the crews to search for the German beams on 30, 31.3 and 33.3 MHz.

While preparations were being made to intercept the Knickebein transmissions, more information came to light in the form of decoded messages and POW interrogations. Jones believed that the antennas were 400 kilometers apart and could be rotated so as to select any target. A pilot would fly along one beam, adjusting for drift. When near the target he would tune in the intersecting beam. Once its dashes had merged into the equi-signal, the bombs were released. Accuracy was sufficient for a factory to be accurately attacked (see Fig 2).

Dr. Jones' analysis was almost exactly correct. What was so remarkable was that this complete description came about by way of scientific intelligence – no signals had yet been received. Despite this, Churchill felt it important enough to receive a briefing in person from Jones.

The Prime Minister

Jones arrived half an hour late for his meeting

with the Prime Minister – a great practical joker himself, he thought that the summons to number 10 Downing Street was a joke by Rowley Scott-Farnie. Excusing himself as he entered a room filled with most of the top British civilian and military leaders, Jones soon realized that no one knew as much about the subject as he did. When finally asked a question by Churchill, Jones took the opportunity to speak for 20 minutes. He finished with a recommendation that every effort be made to find the beams so that countermeasures could be devised. With a typical "Let this be done at once!", Churchill then turned round and tore a strip off the Air Ministry for their tardiness!

Pleased that he had convinced the Prime Minister, Jones hurried off to a meeting with the Director of Signals, Air Commodore Nutting. Also attending the meeting was T. L. Eckersly. Although convened to discuss other German navigation techniques, conversation soon turned to Knickebein. Eckersly dropped a bombshell – despite his earlier paper, he insisted that his calculations now

indicated that a VHF signal from Germany could not be received in England!

The Anson bombers had failed to detect any Knickebein transmissions on their previous missions, and after hearing Eckersly's announcement that it could not possibly work as Jones predicted, Nutting's Deputy Director of Signals, Group Captain Lywood, was reluctant to send them up again. Jones stood his ground however. Pointing out that Eckersly's testimony contradicted itself, he also reminded everyone that the Prime Minister himself had ordered the search. If the flight were cancelled, he told all present that he would "jolly well let the Prime Minister know who had countermanded his orders". Lywood backed down! Air Commodore Nutting then demanded: "And what do we do if we find the beams?" Jones quietly whispered to Rowley Scott-Farnie: "Go out and get tight (drunk)!"

A Dark Night

Dr. Jones went home to spend a miserable night.

Afraid that he could be wrong, he was horrified to think that he could have wasted the Prime Minister's valuable time when Britain was about to be invaded or obliterated from the air.

The Anson bomber took off on time. Told only to search for signals with Lorenz characteristics, the crew was unaware of the importance of their mission. To make a long story short, they found not one, but two beams that night, and on the frequencies predicted by Jones and Scott-Farnie. As Jones had suspected, one of the beams pointed towards the city of Derby, where just coincidentally a Rolls Royce factory produced engines for the RAF! With the doubt about the beams dispelled, everyone was in a celebratory mood. In the midst of the revelry Scott-Farnie pulled Jones aside. "Remember what you said yesterday?" Jones did, and so they ducked out to the pub across the street!

Now that the beams, codenamed "Headache", had finally been found, it was necessary to jam them. There appeared to be no transmitters available for this until someone remembered that diathermy sets, used by hospitals to cauterize wounds, generated RF near the desired frequency. A doctor specializing in diathermy was contacted and agreed to help. He was given some money, told to buy a uniform and go round to all the hospitals and "pinch the diathermy sets"! They were quickly converted into 150 watt noise jammers. Many were installed in local police stations, with instructions for the on-duty Bobby to switch them on whenever the air raid siren sounded.

It now appears that these jammers had little effect on the accuracy of the beams, but they did serve to let Luftwaffe crews know that the British were aware of the beams, possibly reducing their confidence in them.

Meanwhile, more powerful jammers were being built. They were capable of transmitting Morse dashes identical to the German ones. As an antidote to the "Headache" beams, the jammers were codenamed "Aspirin".

A New Organization

Eventually 28 such transmitters

were built, some mounted on trucks. An organization to detect and jam the Knickebein beams was developed. Older bombers fitted with VHF receivers would search for the beams each night. These were supplemented with ground-based receivers. Contrary to Eckersly's change of heart, the German signals could be received in partly buried concrete bunkers with wet shingle roofs!

Reports on the beams and their bearings were forwarded to a central headquarters that coordinated the action of the Aspirin jammers. The task of intercepting the beams was made much easier by poor signal discipline by the Knickebein operators. The beams were left on much longer than necessary, sometimes all day. This was probably for operator training, but they could easily have been turned around to accomplish this (see Fig 3).

What was the effect of the Aspirin jammers? By most accounts they appear to have been successful. Most importantly, the accuracy to hit critical targets such as aircraft factories was not achieved. German bombers were seen to fly in large circles, trying to regain the equi-signal. Other than a handful of pre-war old-timers, most Luftwaffe pilots were not experienced in nighttime flying, and could not work through the jamming. Some aircrews became so disoriented that they bailed out, thinking their electrical system was totally haywire!

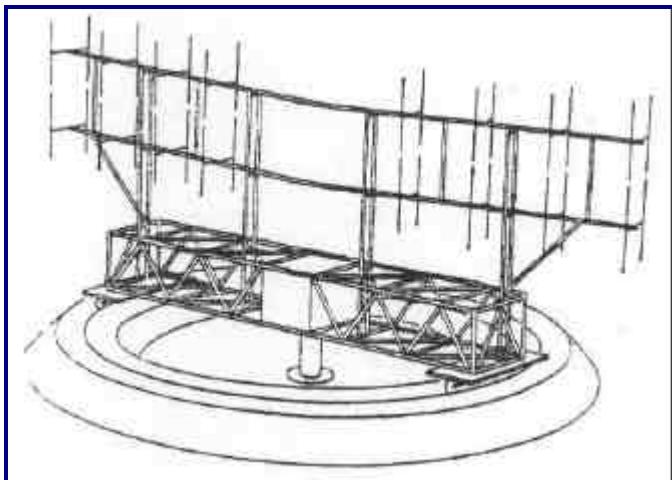


Fig 3: Knickebein antenna at Beaumont Hague.

To counteract the Aspirin jammers the Luftwaffe began to switch the beams on at the last moment, and even aligned them on false targets, turning to the real targets after the British had activated the jammers. This was not

terribly successful – the bomber crews were often unable to locate the beams themselves!

Another British countermeasure was being developed but was cancelled when it became evident that the Aspirin jammers were sufficient. It was a deception repeater – Knickebein signals were to be received at one location, sent to a distant transmitter, and retransmitted. This would have made the beams appear to bend. Although never implemented, it led to rumors that the British were indeed bending the beams. On one occasion a German bomber, by chance, jettisoned its load over the grounds of Windsor Castle. The next day Group Captain Addison, responsible for the Aspirin jammers, received a phone call from a very irate Comptroller of the King's Household, demanding why he had dared to bend the beams over the castle!

Meaconing

The RAF was also aware of a system of 80 low frequency (LF) beacons used by the Luftwaffe. Operating between 200 and 500 kHz, they radiated a continuous signal identified by assigned frequency and a Morse identifier. By taking bearings on three beacons, a bomber's location could be determined.

These beacons were countered in a very elegant manner. Receivers with directional antennas near the South and East coast of Britain were tuned to the beacon frequencies. The received signals were sent by landline to counterfeit beacon transmitters on the same frequency. Changing callsigns had no effect, because the British beacons were modulated by the original German signals. This "Masking of Beacons" became known as "Meaconing" (see Fig 4).

A later development was to intercept radio messages from German bombers asking land stations to take bearings on the aircraft transmissions. British transmitters would then be keyed on the aircraft's frequency, meaconing it. As a result the bombers were given wildly incorrect positions. This all combined to make nighttime navigation a nightmare for Luftwaffe aircrews. Several were lost in accidents, and several more actually landed at RAF airfields, thinking themselves to be home! *Next month – X-Gerat!*

Membership Report

By KCØNC Les Borst, Membership Chair

Please welcome these New Members

RON DUFFY	ABØWO
GUS MOCILAC	K6LTW
HENRY RUSSELL	KCØNAJ

Total Number of Members

109

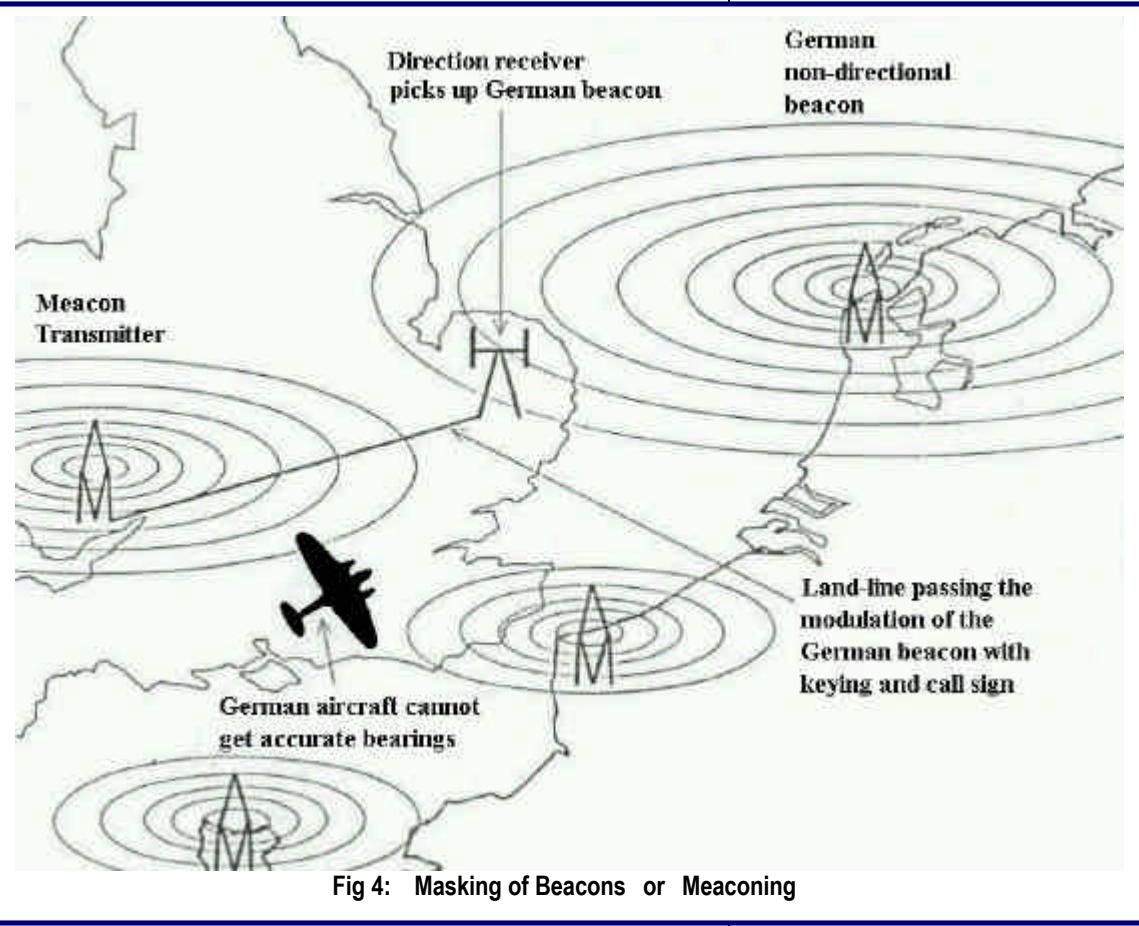


Fig 4: Masking of Beacons or Mearing

ARES training takes place on the Tuesday night net (7 pm on 97) and by participation in public service events. The public service events season is fast approaching. Our club is well represented in ARES activities. Plan on joining in this year!

There has been conversation at the board meetings of a way to reach out to members who are not active in attending meetings. Many of these don't come because they lack a way of getting to the meetings. If you know one of these members please consider assisting them in getting to the meetings. Our meeting location is wheel-chair accessible.

Club and Local News

President's Corner

By NØLNW Ben Cruise, President

Boy! Time is really flying by. I see from the e-mails that the Field Day plans are moving right along. Looks like a lot of fun.

Skywarn annual training day is March 29th. Skywarn is a group of weather watchers that assists the National Weather Service during incidents of severe weather. K4ARM Sid, is the Skywarn coordinator. You can contact Sid for more information on Skywarn training. I encourage as many as possible take part.

Amateur Radio Emergency Service (ARES) is something many of us are involved in. This is ham radio at its finest. One of the main reasons we have the frequencies that we have is because of our public service in times of emergency. To be effective emergency communicators we all must take part in training. We saw last summer during the fires, that trained operators make emergency communications happen. Untrained communicators do more harm than good. KØHBZ Wes is the ARES Emergency Coordinator.

Club Briefs

- Dennis Major NØABC is taking over as VE Liaison for the PPRAA VE team. Bill Stanfill K4YCD has been leading the VE team for some 12 years now, and has done a fantastic job of helping folks get their ham licenses and with upgrading. Practically every ham in COS that got a license or upgraded in the past 12 years has met Bill. Thanks, Bill, for all the work over the years! Dennis will carry on, and Erik Mugele KGØXE will continue to assist with the test sessions.
- Last month I asked about Saturday morning breakfasts and where to find some. I got two responses. The group that used to meet at the North End Diner is now meeting at the Omelette Parlor on Fillmore. Another group meets down in Widefield at Valley Family Restaurant, at Fontaine & Widefield Sts at 0730. Thanks for the update. Any others?
- Last month there was a photo from Skywarn Recognition Day with two unidentified folks. Well, they've been identified. They are Harry

and Betty Valenta of Aurora, NØNMP and NØYIR.

- The Colorado Council of Amateur Radio Clubs (CCARC) is putting together a nominating committee and is seeking individuals to fill the vice chair position and the treasurer position. If interested, contact Bob Witte KØNR k0nr@arrl.net or Bud Saum KØGS k0gs@amsat.org.
- You think I was kidding last month when I asked for articles after you completed the word puzzle? Nope. But I didn't get any submissions based on the puzzle, either. It's not too late, though, for you to send me in an article!
- We're looking into reserving the Sportsman's Club site at the USAFA for this year's Field Day. We'll keep you posted. Al VO1NO is our FD coordinator this year.
- Hamfest planning meeting is on Sat, Feb 1, and on first Saturday of each month from now on.

General Meeting Minutes, Jan 8, 2003

By KCØGMI Joanie VerDuft, Secretary

Meeting was called to order at 7:02 pm by VP Tom McDaniel, NØNTX in the absence of NØLNW who was ill. This was followed by introductions around the room. 37 members signed the attendance list. KBØB provided the treasurer's report and noted that a lot of membership renewals were coming in. KCØNC announced that January Ø-Beat would be the last issue received if membership was not renewed. KØSU noted that Al Penney would continue his Battle of the Beams talk in Feb, and David Allen WBØTAQ will give a presentation in March on digital HF modes. WV7T will do a program on low power operating in April. If you know of a good technical program, contact Rick KØSU. KØTER presented a request from the Sports Car Clubs of America for communications support during a road rally on June 21st in the Cripple Creek area. Mike said that ARES could not support this due to other conflicts but wondered if someone in PPRAA could take charge of it. Anyone interested should contact Pete Mathewson at opengate@pcisys.net. KCØEGJ announced the swapfest tickets are available and that she will look to have the future swapfest committee meetings on the 1st Saturday of the month vs the 2nd Saturday to avoid conflict with the HAMCON meetings. N7LV noted that Frank McNally has started his beginning ham radio classes and will be conducting a CW class one hour before the theory class and any are welcome. NØNTX announced that there is a new Saudi FM Satellite 1C that can be accessed with an HT. For more info contact Tom. KØHBZ discussed his EC report for 2002 and thanked everyone

for the excellent and extensive support provided D-14 ARES in 2002. ADØA mentioned that the Northern Colorado ARC has joined HamCon which now makes 15 organizations supporting the 2003 ARRL Rocky Mountain Division Convention in Estes Park. KØSU noted that he still needs help contacting exhibitors for the convention. If you can help, please contact Rick KØSU at 531-943 or k0su@arrl.net. Al Penney VO1NO has volunteered to be our Field Day Chairman this year. Way to go Al! Al also thanked all those who helped with his antenna raising. NØNTX requested ideas be provided to the Board for a Field Day site. ADØA noted that the club's new call AFØS will probably be used for FD and that WV7T is the AFØS license trustee. Doc WØMCT mentioned that Al Vrooman NØCMW was in the hospital recovering from a mild stroke and appreciated a message that Doc delivered to him. KBØB advised that the Aurora Repeater Association swapfest is Feb 16th from 9am to 1pm at the Adams County Fairgrounds; \$4 admission, \$10 for a table. WØMHP asked about the e-mail reflector archives; N7LV will advise all members via the reflector regarding this. Kate's son KCØEGK needs help to get back on the air; ADØA noted that Frank KAØYPX can probably loan him an HT. The meeting took a break followed by a presentation of home-brew equipment by those who brought same. Meeting adjourned at 8:35pm. *Respectfully submitted by Joanie VerDuft, KCØGMI, Secretary.*

Board Meeting Minutes, Jan 13, 2003

By KCØGMI Joanie VerDuft, Secretary



The PPRAA Board of Directors met at Jerry and Joanie's house on Jan 13, 2003. The meeting was called to order by VP Tom McDaniel NØNTX in the absence of the President at 7:15 pm. Attending were Bob Wogaman KBØB, Rick Brown KØSU Kate Muniz KCØEGJ, Aaron Pelouze KD6FLM, Jerry VerDuft ADØA, and Rob Roller N7LV. Joanie VerDuft KCØGMI was ill. Kate noted that she would be selling PPRAA raffle tickets at the Aurora Repeater hamfest on Feb 16th. She also advised that only \$734 was needed to purchase the raffle prizes although the club authorized \$1000. Kate advised that NØABC requested the Board consider purchasing an updated Technician Class video course for future club use. The Board felt it would be better to look into a General Class video course since Frank McNally teaches the Technician Class every year. The Board authorized NØABC to investigate the details of

purchasing a General Class level video course and the associated costs. The Board authorized Ron NKØP to send a certified letter to the past club historian, NØVR, regarding transfer of the club's historical records to NKØP. The Board also requested KØSU to remind NKØP to get with KØTER regarding inventory of the club assets, which is past due. N7LV noted that he, KBØB and NØABC will be attending the state's raffle certification class on Saturday, Jan 18th. ADØA noted that the HamCon Convention Committee had approved Convention Committee shirts for all committee chairs, co-chairs, and supporting committee members who regularly attend the convention committee meetings. The shirts cost \$25 each and are to be paid for by the individuals or by the organization they represent. PPRAA members to the Convention Committee are working very hard and are absorbing a lot of personal travel expense to attend the monthly committee meetings in Castle Rock. The Board unanimously agreed to provide \$150 as payment of six HamCon Committee shirts for ADØA, KCØGMI, KØSU, N7LV, KDØJU, and WBØRTF. Jerry also noted that Jeff Ryan KØRM has called for nominations for the 2002 ARRL Colorado Section Ham of the Year Award, which will be presented at the HamCon Convention Banquet. He also advised that Joanie KCØGMI had notified the Pikes Peak Library System to update their database with the current PPRAA club officer information, etc. Rick KØSU announced that the Leon Young Service Center has a new room reservations person and the Club's request for the meeting room in 2003 was not transferred to her. The result is that the room has been booked by other organizations in April, June, September and October. PPRAA has the room for January, February, March, May, July, August and November. (December is the Christmas dinner at another location). The Board was extremely disappointed and asked Rick to determine if we could meet at the Office of Emergency Management (OEM) conference room in April, June, September and October rather than to change the Club meeting night. The Board noted that Al Penney VO1NO has volunteered to be our Field Day Chairman and recommended we secure the Air Force Academy site for FD. A get-well card for Al Vrooman NØCMW was circulated for signing and Kate will deliver to him in person. Meeting was adjourned at 7:55 pm. *Respectfully submitted by Jerry ADØA in the absence of Joanie.*

Colorado Connection News, Jan 18, 2003

By WBØQMR Paul Shackelford

December was a slow month at The Connection but so far January has been fairly lively. The Leadville 145.445 repeater went down in mid Nov. There was an attempt to

hike up to fix the problem in Dec by Bill Jacobson KBØNWM and John Stewart WØCID but the weather was too bad. This repeater feeds Rifle, Salida, Vail and Pagosa/Wolf Creek.

On the 12th of Jan Dave Andrews KAØYDW, John Thomson N5EHP and wife Gail, Steve Poulsen NØRTC and Neil Tinggaard KØXS attacked Mosquito Pass with the aid of Don Will and Jay Smith with their Sno-Cats from Trans Mountain Access. The snow conditions were terrible for back country travel and the 'Cats could only make it about 2 mi before the going got really tough. At that point one of the 'Cats stayed where it would not get stuck with Gail and Jay and the other 'Cat continued the assault. It soon was evident to the guys that walking may be faster than waiting for Don to plow the road as he fought the deep loose snow. The guys finally reached the site and found the batteries to be dead and nearly frozen solid. The solar controller that regulates the charging rate from the solar panels into the batteries had failed. This was bad news as these batteries were new this summer and may not recover. The site has a small propane powered generator and it was started to charge the batteries and get some heat in the building. It was run all day and then its timer was set at ten hours to charge overnight. The solar controller was replaced with a new controller. Also a low voltage cut off was replaced so if a total failure should occur again the system will shut down before the batteries go completely dead and can no longer give the solar controllers the power they need to operate.

Don continued to fight his way up and was got to within a mile of the repeater where he waited to haul the tired crew down. Gail stayed in communication with the crew via FRS and she and Jay were the safety lifeline if there was a problem. The work was completed about sundown and the repeater was turned on via remote control on Tuesday morning. It looks like the batteries have survived and will get us through the winter.

Many thanks go to Gail, John, Dave, Steve and Neil for their hard work. Also a special thanks to Don Will and Jay Smith of Trans Mountain Access for the Sno-Cats and hard work transporting. They donated more than three quarters of their regular fee to The Connection to make this possible. If you are in need of winter back country access these are the guys to call. They were very professional and safety-conscious. You can contact them at 303-881-7386 and their service is 24/7. If you would like to donate to help with the cost of the transportation please send your tax deductible donation to: Colorado Connection Repeaters, Inc., P.O. Box 22134, Denver, CO 80222. Thanks to those who have sent donations this week. The next meeting is February 11th in Denver at the usual place near Holly and I-70 at 6:00PM. Talk-

in on The Connection. 73 from The Colorado Connection Board Of Directors

Ham Etc News Briefs

- The ARRL has produced a 6-minute video clip about ham radio, entitled "Amateur Radio Today", narrated by Walter Cronkite KB2GSD. This is a perfect video for your demos of ham radio to non-hams. It features footage of Colorado hams in action during the wildfires this past summer. You can order it from the ARRL for \$9 or download it (70 MB) from KAØWUC. Contact kit@ka0wuc.org for details.
- Jeff Ryan KØRM CO Section Manager, is looking for "...someone who has distinguished himself / herself as a ham radio operator in the past year? Do you know someone who has demonstrated the best that our hobby and service can be? Send me your nominations for the Colorado Section 2002 Amateur Operator of the Year. Mail (or email) a paragraph nominating an ARRL member in the Colorado Section. including call, any club affiliation (if being nominated by a club) and why this person should be recognized. Please get nominations to me by March 15th, 2003." E-mail to k0rm@arrl.org.
- IRLP node available for your use - no membership required! NØPWZ Mark up in Monument has an IRLP node set up on 449.725 MHz (100 Hz) that is an open system. He offered it up to CMRG members until their system is installed, however he also said I could post this in the Ø-Beat. Just punch in the IRLP node number to bring it up. "73" brings it down. Go to <http://www.awaforms.com/pdrc> for a brief description of the system.

Al Vrooman NØCMW Hospitalized

By NKØP Ron Deutsch

Al Vrooman NØCMW is in HealthSouth Rehab Center recovering from surgery. It is on Parkside Drive, off Printer's Parkway, room 204. Visiting hours are 4 pm to 8 pm Mon-Fri and 11 am to 8 pm Sat-Sun. He's unable to answer the telephone at this time.

Still Looking for New Ø-Beat Editor

By N7LV Rob Roller, Ø-Beat Editor

It's time for me to pass the baton on to another creative individual (not that I'm creative or anything) and let someone else have some fun with producing the Ø-Beat. It is fun, and educational too! It's amazing how much you'll learn about ham radio. It's really not a big job, but it does take several hours a month to piece it together. Getting it to the printer is now a piece of cake since

X-Press accepts it via e-mail. This is also a board position. It was made a board position a number of years ago so the editor would stay up on the latest happenings in the club.

Hamfest Horizon

- **Feb 16, 2003:** Aurora Repeater Assn, Brighton. Contact Wayne Heinen NØPOH 303-699-6335, n0poh@arrl.net. www.qsl.net/n0ara/
- **May 30 Jun 1, 2003:** Rocky Mountain Division Convention (HamCon), Estes Park. Visit the web site at <http://www.hamconcolorado.org> Contact Jerry VerDuft ADØA, 719-634-8066, ad0a@arrl.net.
- **Jun 14, 2003:** PPRAA Hamfest, Lewis-Palmer High School, Monument. VE testing, forums, raffle prizes! Contact Kate Muniz KCØEGJ for details.

Historical Dits and Bits

By NKØP Ron Deutsch, Historian

10 Years Ago This Month, our Public Service Chairman was receiving awards for what he still does best, as this clipping from our history archives shows

Local Ham Wins National Recognition

Mike Stansberry, KØTER, was "born at an early age" in Scandia, Kansas. He has been working for Hewlett-Packard for the last 15 years as an electrical technician.

Mike first became involved with the Pikes Peak Walk in 1975 when he walked with his daughter. Because of his interest in communications (Mike was first licensed as an amateur radio operator in 1959) he felt the need for communication on the Walk was critical. He offered the help of the Pikes Peak Amateur Radio Association because he felt it would enhance the Walk. It has proven to be one of the most valuable assets to this enormous Walk.

In 1980, Mike married Luci and immediately involved her with the Walk. She became information chairman in 1986. Luci, NØOUD, has made that a very important part of the organization of the Walk.

Mike has proven to be invaluable for his dry sense of humor, his willingness to assist wherever needed, and his forthright sharing of concerns and accolades. Mike can always be counted on to be one of the first people there and one of the last to leave.

A very special thank you to Mike and Luci for their many, many years of service and caring to the Pikes Peak Walk for Children.

(from Celebration of Volunteers)

Public Service Communications

The PPRAA is an ARRL Special Services Club, but it is not an emergency services club itself. The PPRAA supports all amateur radio involvement in public service and emergency communications in any way it can, including reporting activities happening in the region. These columns are based on available knowledge of the editor, and the opinions expressed are not necessarily the opinions of RACES, ARES, Skywarn or any other organization, or their leadership. Logos used with permission.

RACES



<http://www.qsl.net/epcraces/>

VHF Net Tuesdays at 1930 on the 146.76 MHz CMRG repeater

Les Borst KC0NC, RACES Officer

The new RACES Officer is Les Borst KC0NC, with Doug Moloney WØMHP as the new operations officer, and Tony Dal Lago KC4VMB taking on the technical officer. Les hopes to complete the slate of new officers and coordinators by the end of February. We have started to plan out the year 2003. Several items of equipment need working on and there are plans to have more exercises. If you don't have your new identification badge, you need to do so. A small work party is underway to find out why some of the antennas at the OEM aren't working. A larger antenna work party is in the works for an antenna installation. Stay tuned!

ARES



<http://www.qsl.net/ppares/>

VHF Net Tuesdays at 1900 on the 146.97 MHz PPFMA repeater

Wes Wilson KØHBZ, EC

Wes KØHBZ has called off support for the Rambling the Rockies for this June due to schedule conflicts. Mike KØTER is putting together a public service schedule for publication. Public service season starts this April. If the drought is anything like last year, we can expect the fire season to start early. Hopefully nothing as big as last years though. The National Interagency Fire Center (www.nifc.gov) released a fire seasonal outlook in January. Essentially if Spring stays dry the fire season will begin early and will get worse through the summer. This has been the driest five years on record.

New Net for Christian Radio Operators

By KL1DJ Doug Myers



Christian Radio Operators Serving the Savior (C.R.O.S.S.) is a group of amateur radio operators in Colorado Springs, Colorado. It is a non-profit, non-denominational organization devoted to serving the Savior throughout the community by providing a means to share the gospel to those in need. The group's vision is to share scripture, prayer requests, and grow the ministry as God wills. Currently, the group uses the simplex frequency 146.580 each Sunday afternoon at 1700 (5 PM).

Skywarn Training Coming Up In March



Skywarn training is tentatively scheduled for March 29. Contact Sid White K4ARM for details and to get registered. More information will be forthcoming in the next Ø-Beat. Skywarn is the weather spotter program coordinated by the National Weather Service. Tom Magnuson of the Pueblo NWS office has graciously donated his time over the past several years to train us ham radio operators in the skills necessary to collect and feed back basic weather information to the NWS.

Pikes Peak Region Ham Radio Event Calendar

February / March 2003 -- Please see Page 2 for Points of Contact

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1 Hamfest Planning Mtg
2	3	4 PPRAA Ham Class	5	6 PPRAA Ham Class & VE Test	7	8 PPRAA VE Test HamCon Mtg
9 CSARA Annual Mtg	10	11	12 PPRAA Mtg	13	14 Lunch Bunch	15
16 ARA Hamfest	17 PPRAA Board Mtg	18	19 MARC Mtg	20 EPCRACES Mtg	21	22
23	24 ZB Deadline	25	26	27	28	1 Hamfest Planning Mtg
2 PPFMA Annual Mtg	3	4	5	6	7	8 MARC VE Testing HamCon Mtg
9 PPFMA Mtg Snow Date	10	11	12 PPRAA Mtg	13	14 Lunch Bunch	15
16	17 PPRAA Board Mtg	18	19 MARC Mtg	20 EPCRACES Mtg	21	22
23	24 ZB Deadline	25	26	27	28	29 Skywarn Traning
30	31					

Questions about any event on this calendar? Something missing? Try our web page, or contact a Board Member!

PPRAA Membership Application

Membership Application for the Pikes Peak Radio Amateur Association, Inc. P.O. Box 16521, Colorado Springs, CO 80935-6521

Date: _____	<input type="checkbox"/> New Member <input type="checkbox"/> Renewal	In which activities would you like to participate?
Name: _____	<input type="checkbox"/> Field Day <input type="checkbox"/>	
Address: _____	<input type="checkbox"/> Demonstrations <input type="checkbox"/>	
City: _____ State: _____ Zip: _____	<input type="checkbox"/> Nets or round tables <input type="checkbox"/>	
Call: _____ Class: N T + G A E Phone: _____	<input type="checkbox"/> Organize activities <input type="checkbox"/>	
Mbr of ARRL? <input type="checkbox"/> Yes <input type="checkbox"/> No E-mail: _____	<input type="checkbox"/> Teach ham classes <input type="checkbox"/>	
Additional Family Members to Join/Renew:		
Name: _____ Call: _____ Class: _____ ARRL? _____	<input type="checkbox"/> Full Member \$15: <input type="checkbox"/>	
Name: _____ Call: _____ Class: _____ ARRL? _____	<input type="checkbox"/> Family Membership \$18: <input type="checkbox"/>	
Name: _____ Call: _____ Class: _____ ARRL? _____	<input type="checkbox"/> Over 65 \$10: <input type="checkbox"/>	
Please indicate how you'd like your Ø-Beat delivered: <input type="checkbox"/> Standard hardcopy via U.S. Mail		
(Defaults to standard hard copy in the event that NO check boxes are checked) <input type="checkbox"/> As a PDF file attachment via e-mail, to help save a few bucks		
<input type="checkbox"/> I'll save the club a few bucks and download it from the Web!		
Circle your interests <input type="checkbox"/> HF / V/UHF / FM / SSB / Digital / DX / Contests / Technical / Hardware / Other		
New and renewing members must submit a completed application form along with your check to the Treasurer. Please Type or Print Clearly!		

ALL NEW MEMBERSHIPS AND RENEWALS WILL BE PRORATED TO EXPIRE IN DECEMBER!!

RadioActivities!



Lunch Bunch

The **Lunch Bunch** this month is February 14 at the Country Buffet, Citadel Crossing Mall, from 1130 to 1300. Join us! (Always the **Friday**

following the club meeting.) Call Moe WBØRTF with any questions!!

Dits and Bits

- **For Sale:** NorCal NC-20 QRP Xcvr. \$100. Also Outbacker Perth Plus antenna, covers 75-10m, 6 and 2m. \$200. Steve Bates NØMHQ cbates1122@aol.com or 637-0884.
- **For Sale:** HyGain "Long John" 5-el 10m beam with BN-86 ferrite balun, \$189. Russ WØSWS, 633-8186 or grfreymuth@aol.com.
- **Wanted:** Three good used or like-new Rohn 25 tower sections. John Evans NØHJ, 592-4709 (day) or 495-1970 (home), or jaevans@codenet.net.
- **Wanted:** Operating manual for Dentron model AT-1K. Dave WØMEY, flippers@msn.com.

- **Wanted:** Used crank-up tower, 45-55 ft height preferred, but will consider a 35 ft tower. Dave Sloan NØEOP, 391-0590, or desloan@aol.com.

Jess Miley

KØTAA

719 W 7th, Florence, CO, 81226

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